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BEAM POWER TUBE

For high-fidelity audio-amplifier applications

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage 6.3 ac or dc volts

Current 0.9 amp

Direct Interelectrode Capacitances:⁰Grid No.1 to plate. 1.5 μ fGrid No.1 to cathode & grid No.3,
grid No.2, and heater 10 μ fPlate to cathode & grid No.3,
grid No.2, and heater. 7.5 μ fCharacteristics, Class A₁ Amplifier:

Plate Voltage 250 volts

Grid-No.2 (Screen-Grid) Voltage 250 volts

Grid-No.1 (Control-Grid) Voltage. -14 volts

Plate Resistance (Approx.) 22500 ohms

Transconductance. 6000 μ mhos

Plate Current 72 ma

Grid-No.2 Current 5 ma

Mechanical:

Operating Position. Any

Maximum Overall Length. 4.62"

Maximum Seated Length 4.06"

Maximum Diameter. 1.63"

Bulb. T12

Base. Small-Wafer Octal 8-Pin
with Sleeve (JETEC No.88-191)

Basing Designation for BOTTOM VIEW. 8HY

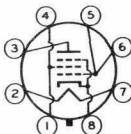
Pin 1-Grid No.2

Pin 2-Heater

Pin 3-Plate

Pin 4-Grid No.2

Pin 5-Grid No.1



Pin 6-Grid No.1

Pin 7-Heater

Pin 8-Cathode,
Grid No.3PUSH-PULL AF POWER AMPLIFIER — Class AB₁

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE 450 max. volts

GRID-No.2 (SCREEN-GRID) VOLTAGE 400 max. volts

CATHODE CURRENT:

Peak. 400 max. ma

DC. 110 max. ma

GRID-No.2 INPUT 3.5 max. watts

PLATE DISSIPATION 25 max. watts

⁰: See next page.



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PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode.	200 max.	volts
Heater positive with respect to cathode.	200▲ max.	volts

Typical Operation with Fixed Bias:

Values are for 2 tubes

Plate Voltage	330	400	450	volts
Grid-No.2 Voltage	330	300	350	volts
Grid-No.1 (Control-Grid) Voltage	-24	-25	-30	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage	48	50	60	volts
Zero-Signal Plate Current . . .	122	102	95	ma
Max.-Signal Plate Current . . .	184	152	194	ma
Zero-Signal Grid-No.2 Current .	5.6	6	3.4	ma
Max.-Signal Grid-No.2 Current .	18.5	17	19.2	ma
Effective Load Resistance (Plate to plate)	4500	6600	6000	ohms
Total Harmonic Distortion . . .	1	2	1.5	%
Max.-Signal Power Output	31.5	34	50	watts

Typical Operation with Cathode Bias:

Values are for 2 tubes

Plate-Supply Voltage	400	380	volts
Grid-No.2 Supply Voltage	300	380	volts
Cathode Resistor	200	180	ohms
Peak AF Grid-No.1-to-Grid-No.1 Voltage	57	68.5	volts
Zero-Signal Plate Current	112	138	ma
Max.-Signal Plate Current	128	170	ma
Zero-Signal Grid-No.2 Current . .	7	5.6	ma
Max.-Signal Grid-No.2 Current . .	16	20	ma
Effective Load Resistance (Plate to plate)	6600	4500	ohms
Total Harmonic Distortion	2	3.5	%
Max.-Signal Power Output	32	36	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:●		
For fixed-bias operation	0.1 max.	megohm
For cathode-bias operation	0.5 max.	megohm

PUSH-PULL AF POWER AMPLIFIER — Class AB₁

Grid No.2 of each tube connected to tap on
plate winding of output transformer

Maximum Ratings, Design-Center Values:

PLATE AND GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE	450 max.	volts
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○, ▲, ●: See next page.



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CATHODE CURRENT:

Peak.	400	max.	ma
DC.	110	max.	ma
GRID-No.2 INPUT	3	max.	watts
PLATE DISSIPATION	25	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode.	200	max.	volts
Heater positive with respect to cathode.	200▲	max.	volts

Typical Operation:

Values are for 2 tubes

Plate-Supply Voltage.	410	volts
Grid-No.2 Supply Voltage.	*	volts
Cathode Resistor.	220	ohms
Peak AF Grid-No.1-to-Grid-No.1 Voltage. .	68	volts
Zero-Signal Cathode Current	134	ma
Max.-Signal Cathode Current	155	ma
Effective Load Resistance (Plate to plate)	8000	ohms
Total Harmonic Distortion	1.6	%
Max.-Signal Power Output.	24	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:●

For cathode-bias operation. 0.5 max. megohm

○ Without external shield.

▲ The dc component must not exceed 100 volts.

● The type of input coupling network used should not introduce too much resistance in the grid-No.1 circuit. Transformer- or impedance-coupling devices are recommended.

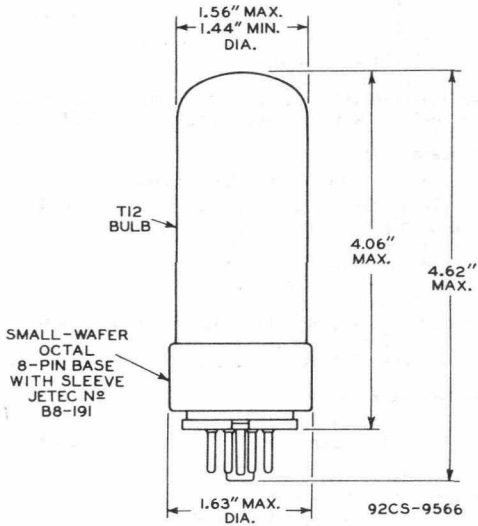
* Obtained from taps on the primary winding of the output transformer. The taps are located on each side of the center tap (B+) so as to apply 43 per cent of the plate signal voltage to grid No.2 of each output tube.

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AVERAGE PLATE CHARACTERISTICS

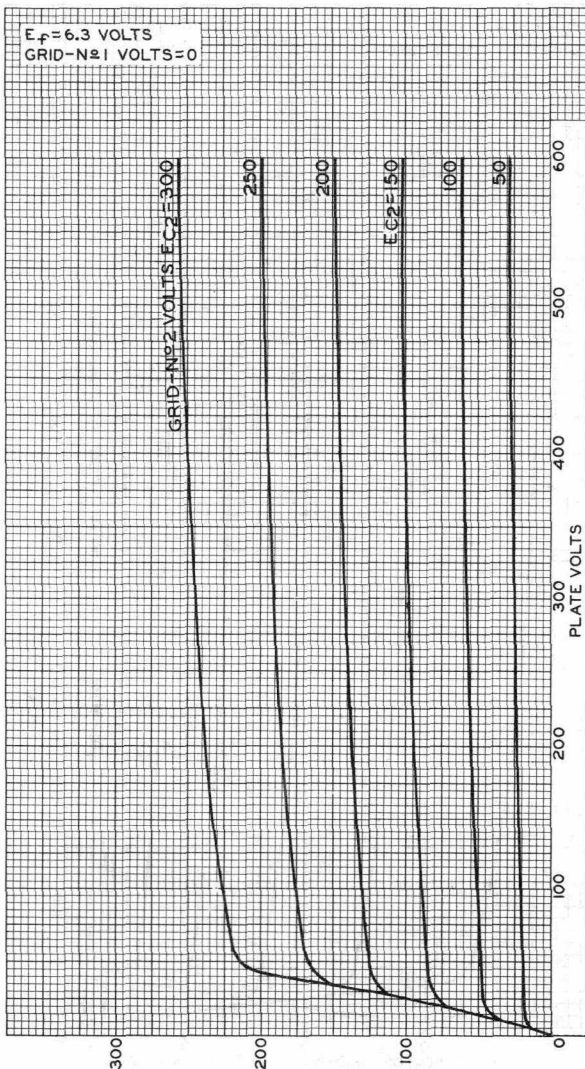


PLATE MILLIAMPERES
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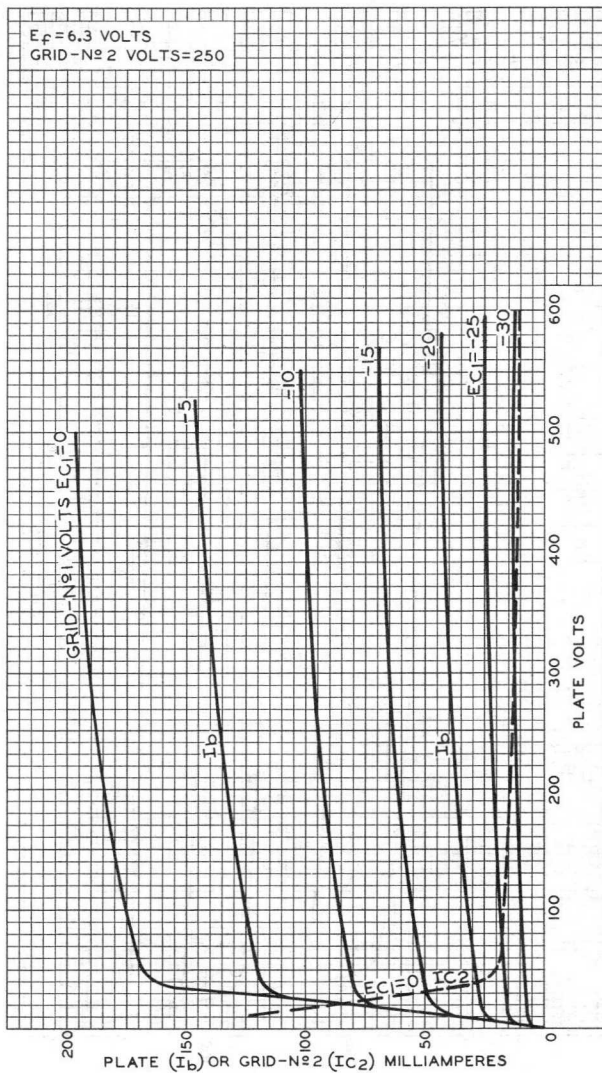
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AVERAGE CHARACTERISTICS



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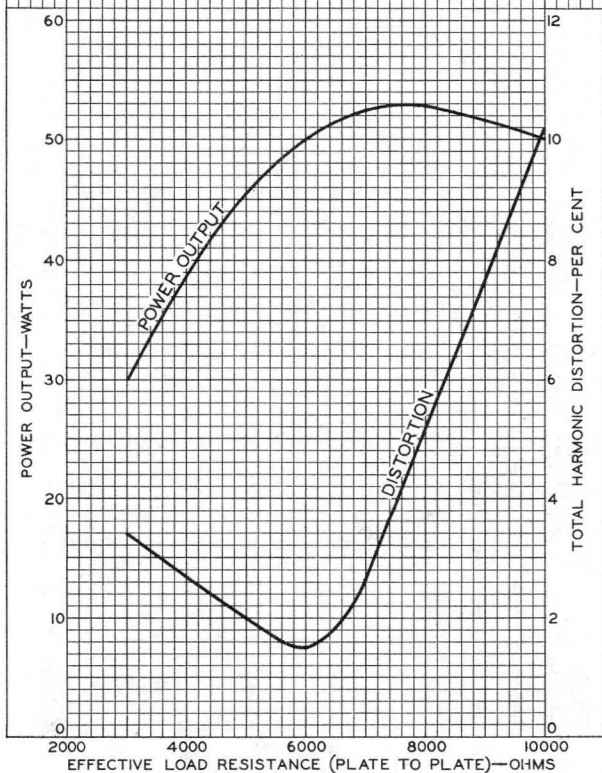


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OPERATION CHARACTERISTICS
PUSH-PULL CLASS AB₁

$E_f = 6.3$ VOLTS
PLATE VOLTS = 450
GRID-No 2 VOLTS = 350
GRID-No 1 VOLTS = -30
AF GRID-No 1 - TO - GRID-No 1
VOLTS (RMS) = 42.5



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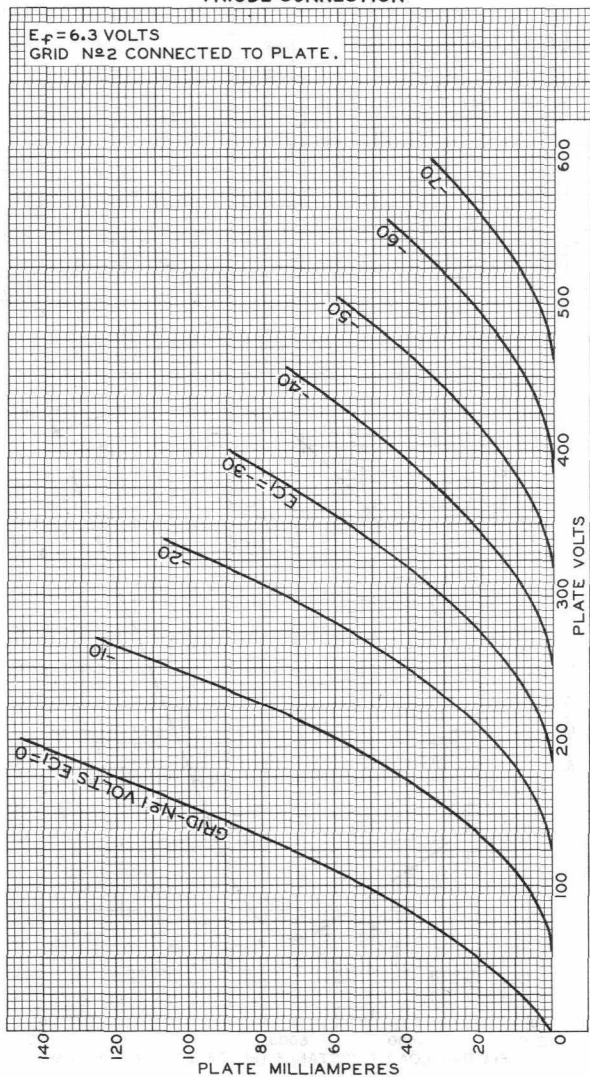
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AVERAGE PLATE CHARACTERISTICS
TRIODE CONNECTION $E_f = 6.3$ VOLTSGRID N₂ CONNECTED TO PLATE.

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